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Environmental Protection
Agency

Enforcement and
Compliance Assurance
(5502G)

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EPA

Superfund At Work

Hazardous Waste Cleanup Efforts Nationwide

Liquid Disposal, Inc. Site Profile

Site Description:
Industrial incinerator and disposal facility

Site Size: 7 acres

Primary Contaminants:
Volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and heavy metals

Potential Range of Health Effects:
central nervous system disorders and a wide variety of cancers

Nearby Population Affected:
54,000 people within three miles

Ecological Concerns:
Clinton River, surrounding wetlands, and state parks

Year Listed on NPL: 1983

EPA Region: 5

State: Michigan

Congressional District: 12

Success in Brief

Strong, Effective Enforcement Brings Michigan Industries To The Table

Imagine trying to round up 850 parties who sent hazardous wastes to a poorly-managed incineration facility over a 14-year period. Convincing them to put down almost $30 million dollars to clean up the Liquid Disposal, Inc. site took real ingenuity and dogged determination. An effort of this magnitude was possible because of flexible enforcement provisions written into the Superfund law.

With help from the Michigan Department of Natural Resources, the U.S. Environmental Protection Agency (EPA) supervised an efficient cleanup of dangerously mixed wastes from paint thinners to cyanide. EPA stabilized the site by removing two million gallons of flammable liquids and sludges from lagoons and pits. Waste contributors then distributed the burden of a long-term remediation by signing six separate settlements for cost recovery and construction activities.

These cooperative efforts offered a unique opportunity to change the way some industries viewed the environment and made many think twice about appropriate disposal of hazardous wastes.

Despite urban runoff, the Clinton River supports a wide variety of wildlife, including the **Carp**. Venerated in Asian cultures, the fish is a symbol of wealth and longevity.

The Site Today

Construction activities are under way to immobilize contaminants from soil beneath a grass-covered, protective cap. The only visual reminder that will remain in the woods is a permanent, posted fence. Many local residents are unaware that Superfund worked so diligently behind the scenes for so long to protect the environment; the few that do appreciate the migrating geese even more.

A Site Snapshot

The seven-acre Liquid Disposal, Inc. (LDI) hazardous waste site is about 20 miles north of Detroit in Macomb County, Michigan. The site is bordered by wetlands, the Clinton River, an auto auction, and an auto junkyard. The Rochester-Utica State Recreational Area and the Shadbush Tract Nature Study Area are within one mile of the site. Approximately 54,000 people live within three miles; an estimated 3,500 rely on ground water for household use.

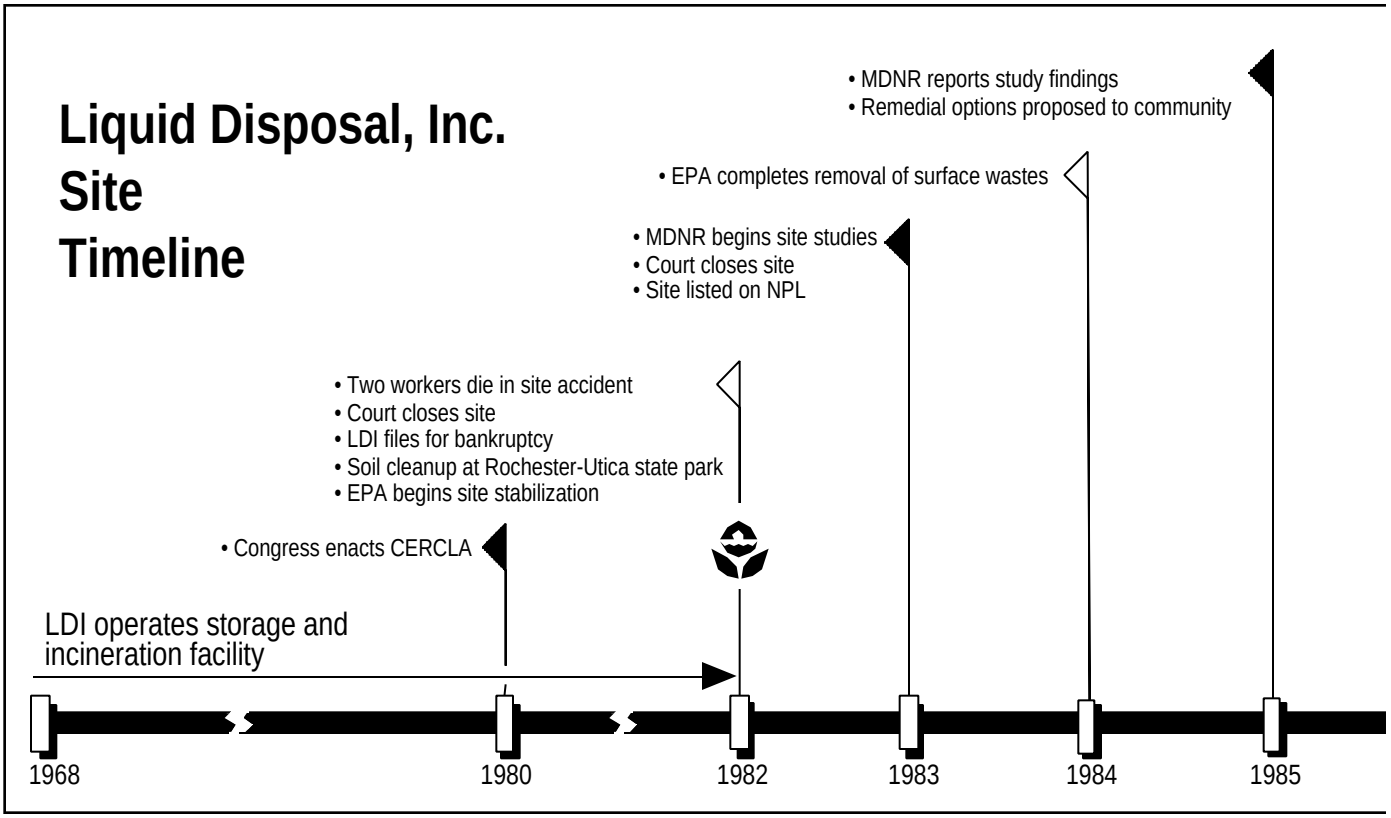
LDI went into business as a commercial liquid waste incineration facility, accepting wastes from major automobile manufacturers, chemical companies, and other industries around the state. Site facilties included an ash pit, scrubber and oil lagoons, surface and underground storage tanks, and an assortment of drums.

The incinerator was designed to handle a myriad of volatile organic substances, including paint thinners, contaminated oils and greases, and other industrial wastes. LDI, however, accepted wastes containing contaminants of all descriptions and stored them indiscriminately in lagoons, drums, and tanks over the entire site.

As a result, soil and ground water were contaminated with volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and numerous heavy metals, including barium, cadmium, and lead.

Contamination from the site threatened the Clinton River and surrounding wetlands; one accidental spill contaminated soil at the Rochester-Utica State Recreational Area.

LDI was cited repeatedly for malodorous emissions and poor housekeeping, but these warnings only led to temporary corrections.



From Economic Stimulus To Environmental Scourge

Canadian-owned LDI was the largest commercial incinerator in Michigan when operations began in 1968. State officials hoped LDI would provide an economic boom for Macomb County, but during the next 14 years, LDI traded jobs and taxes for pollution.

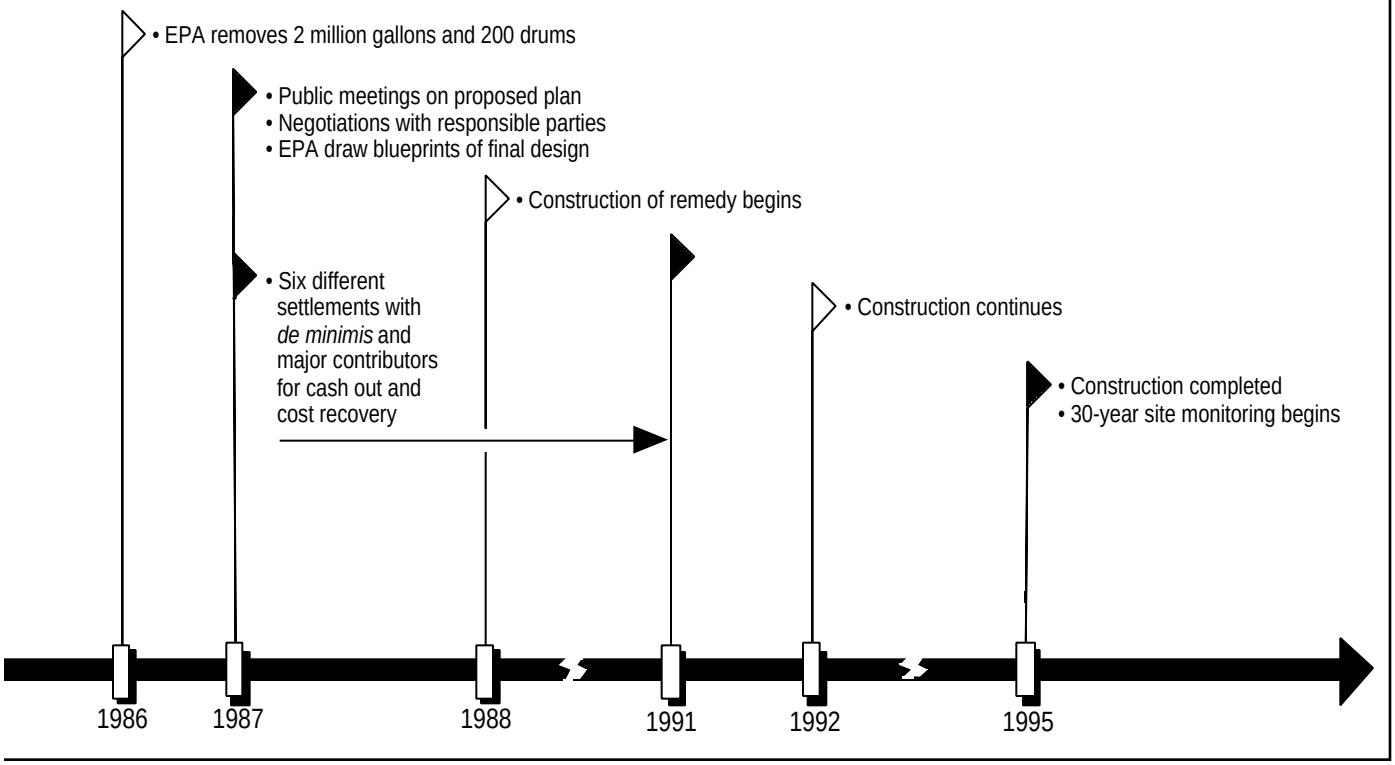
LDI accepted more than 69 million gallons of liquid wastes, some containing chromium and cyanide which the incinerator couldn't burn efficiently. Air pollution went unmonitored and combustion residuals seeped from the ash pit and scrubber lagoons. Materials stored in tanks, drums, and oil pits leaked into soil and ground water and eventually migrated off site.

Worker Deaths Force Closure

Area residents had often complained to the Michigan Department of Natural Resources (MDNR) about noxious odors and fine dust in the air causing respiratory ailments. Tempers flared in January, 1982 after two employees were killed and several others were hospitalized. Workers unwittingly transferred chemicals from a truck to a tank, causing an eruption of lethal hydrogen sulfide gas. A month after the accident, a county court closed the incinerator down. Creditors forced LDI into bankruptcy and the facility folded permanently in May, 1982.

New Superfund Law Provides Assistance

Two years earlier, Congress had enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. This law established a federal program to solve the complex problems associated with improper haz-



ardous waste disposal. Instead of using taxpayer dollars, EPA uses a "Superfund" derived from exise taxes on commercial feedstocks and crude oil. EPA can remediate abandoned sites but makes every effort to locate and negotiate cleanup by responsible parties.

No taxpayer dollars are in the "Superfund"

In May 1982, MDNR asked EPA to assist in soil cleanup efforts at the Rochester-Utica State Recreational Area. PCB-tainted oils had spread from LDI waste lagoons that overflowed from heavy rains. EPA removed about 200 gallons of oil and 750 cubic yards of fouled sediment.

That August, EPA fenced the site, lowered the level of lagoon wastes by 163,000 gallons, removed liquids from the incinerator pit, and constructed a leachate collection system to keep pollutants from migrating off site.

While conducting other stabilizing efforts, a fire broke out in one of the lagoons in the summer of 1983, causing the evacuation of 2,000 local residents. The volatility of the site mixtures prompted EPA to include LDI on the National Priorities List (NPL) of sites requiring comprehensive cleanup.

Between 1984 and 1986, EPA removed approximately two million gallons of liquid waste and 2,800 cubic yards of heavy metal sludge from the waste oil lagoons and shipped them to approved disposal facilities. An additional 200 drums littered around the site were incinerated or landfilled properly.

Final Cleanup Plans

During this time, MDNR began a series of studies in May 1984 identifiying the quantities of various pollutants and remedial options. MDNR presented findings to EPA in 1985. With the completion of removal actions, EPA designed a comprehensive plan for public comment. Public meetings were held in 1987 concurrent with the start of negotiations with the waste contributors.

The volatility of the site prompted EPA to include LDI on the National Priorities List

Construction activities began in the spring of 1988 to collect debris, equipment, and dismantled facility remnants. Using a solidification process, contaminated materials were immobilized with cement and buried underground between impermeable walls. Crews will cover the surface with a multilayer protective cap and clean fill, then seed for grass. Security fencing permanently sets the site aside because of limited future use possibilities. These construction activities will be completed in the fall of 1995.

EPA Settles with Waste Generators

EPA identified more than 850 parties who contributed hazardous wastes to the LDI site over the years. Six different settlements signed between 1987 and 1991 resolved the liability of hundreds of small (*de minimis*) generators. Another 35 major companies designed and constructed the soil cleanup worth an estimated $22.5 million.

Through successful negotiations, EPA recovered $7.5 million in costs incurred for investigations and early removal actions.

EPA Involves Residents

Community participation is an important part of every Superfund cleanup. By providing information about site hazards and the selected remedy, EPA builds community support. Public meetings and comment periods ensure the inclusion of residents' input into decisions. Community

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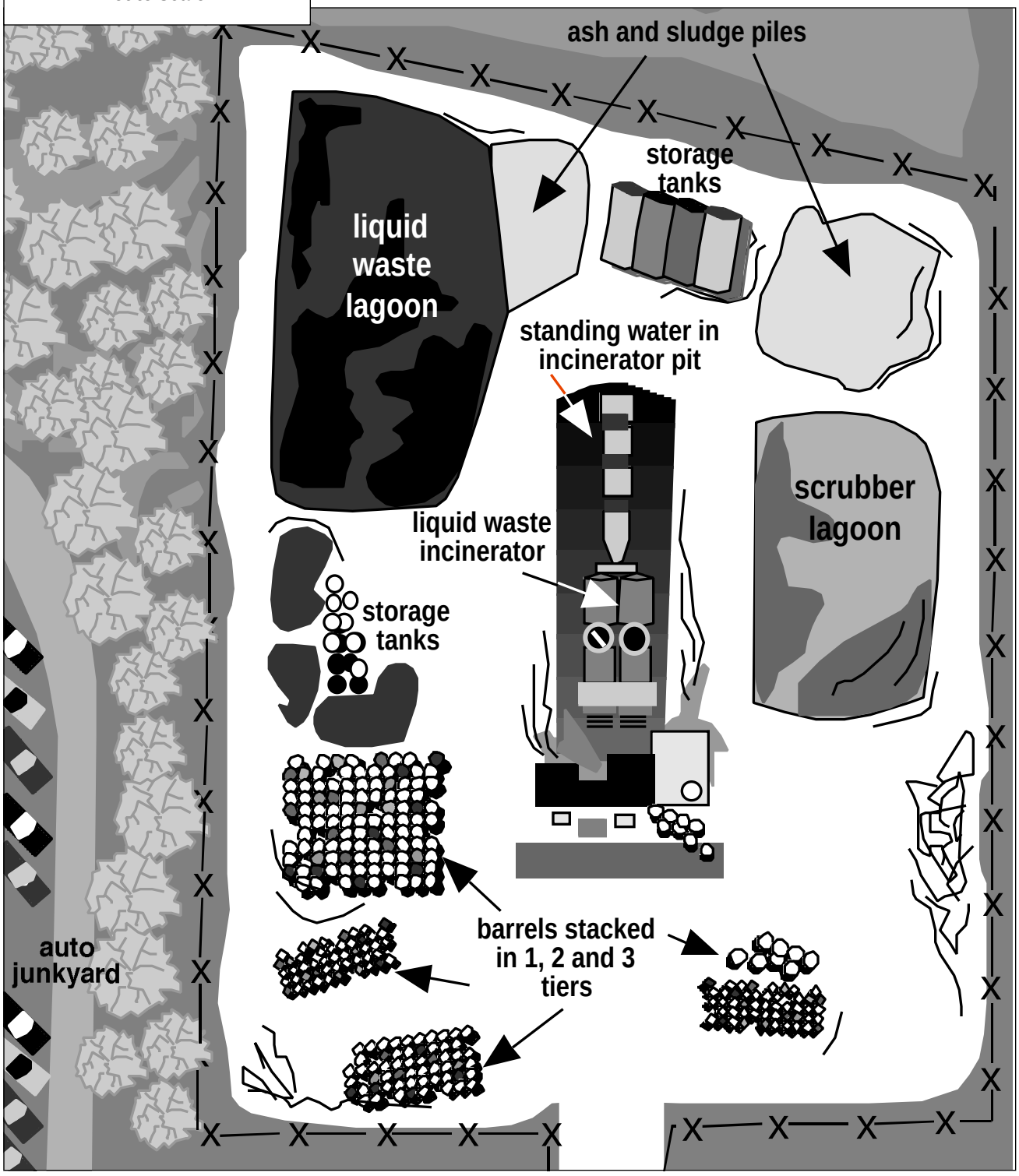
Liquid Disposal, Inc. Site
Macomb County, MI
not to scale

Following the deaths of two workers, no one was allowed on the property to photograph the facility. This schematic shows the lagoons, drums, and tanks spread over the seven-acre site.



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Involvement Coordinators provide regular progress reports from the Site Manager and Attorney.

EPA Builds Community Support

At the LDI site, the MDNR formed a Citizens Information Committee to disseminate information to areas residents and county officials, including a telephone response center. Dedicated efforts directed at the state and local level succeeded in reaching citizens who later expressed satisfaction with the Superfund process.

CERCLA is a law that restores the environment and protects communities through smart, common sense strategies, preventing pollution in the future.

Success at Liquid Disposal, Inc.

EPA reached agreements with more than 850 parties to rectify improper hazardous waste disposal practices. Many of the small contributors signed *de minimis* settlements, preventing third-party lawsuits and unnecessary legal fees. The Agency worked closely with state officials to oversee a cooperative cleanup effort using private money. Residents and local officials participated in the remedy selection and distributed progress reports at a telephone and information center. And most importantly, local wetlands and watersheds have been protected from toxic chemicals for future generations.

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